[0043] Input portion **224** acts like a spacer and resists compression of handheld electronic device **200**. In particular, input portion **224** limits second portion **222***b* of flexible display **222** from moving in a direction towards first portion **222***a* of flexible display **222** (or vice versa), e.g., when a user applies a downward force on second housing portion **222***b*. In this manner, input portion **224** protects flexible display **222** from damage as it prevents flexible display **222** from having a bend radius that is smaller than the minimum bend radius of flexible display **222**.

[0044] It is contemplated that handheld electrical device **200** can include one or more retaining arrangements to retain the positional relationship of first housing portion **220***a*, input portion **224**, and second housing portion **220***b* in the closed configuration. In the exemplary embodiment illustrated in FIG. **4**A, second housing portion **220***b* and input portion **224***a* include a pair of magnets **238***a*, **238***b* that are configured to releasably couple second housing portion **220***b* to input portion **224** in the closed configuration.

[0045] On application of a force by a user of handheld electronic device **200**, second housing portion **220***b* is rotatable relative to the first housing portion **220***a* about flexible housing portion **220***c* to translate electronic handheld device **200** between the closed configuration (FIG. **4**A) and the open configurations (FIGS. **4**B-**4**D). FIGS. **4**B-**4**C illustrate handheld electronic device **200** in partially open configurations and FIG. **4**D illustrates the handheld electronic device in a fully open configuration. In these figures, first housing portion **220***a*, second housing portion **220***b*, and flexible housing portion **220***c* have a substantially flat arrangement, and, consequently, flexible display **222** is arranged in a substantially planar arrangement.

[0046] Input portion **224** is linked to housing **220** in a manner permitting input portion **224** to translate and rotate relative to housing **220**. In particular, when handheld electronic device **200** is in the open configuration, a user can displace input portion **224** from a first position illustrated in FIG. **4**B to a second position illustrated in FIG. **4**D. When input portion **224** is in the first position shown in FIG. **4**B, input portion **224** lies on flexible display **222** with user interface surface **232** facing away from first housing portion **220***a*. In this position, a user has access to input devices **234** on interface surface **232**. Additionally, a user is able to view a portion of flexible display **222** that is not covered by input device **224**. When input portion **224** is in the second position as shown in FIG. **4**D, input portion **224** and housing **220** are in the same plane. In this arrangement, flexible display **222** is fully viewable by a user of handheld electronic device **200**.

[0047] Linking mechanism **236** allows input portion **224** to be displaced via translation and rotation, relative to first housing portion **220***a*, to move input portion **224** between the first position illustrated in FIG. **4**B and the second position illustrated in FIG. **4**D. Referring to FIGS. **4**B-**4**D, linking mechanism **236** includes a link **236***b* having a first end **236***a* and a second end **236***d*. First end **236***a* of link **236***b* is rotatably attached to input portion **224**. Second end **236***d* is configured to slide and rotate in a guide **236***c* formed in first housing portion **220***a*. When a user manually engages input portion **224** and applies a sufficient force, input portion **224** is displaced axially relative to bottom **226** of housing **220**. First end **236***a* and second end **236***d* are spring loaded such that, when input portion **224** has cleared bottom **226** of housing **220**, input portion **224** is positioned in the same plane as housing **220**. Linking mechanism **236** may also act as a retainer mechanism to maintain input portion **224** in the first position and the second position, respectively.

[0048] The embodiments shown in the drawings provide users with a compact, portable electronic handheld device having a folding structure and a flexible display. The device maintains a minimum bend radius of the folded flexible display when the electronic handheld device is in the closed configuration, so as to protect the flexible display from damage. At least some embodiments of the electronic handheld device have the added benefit of allowing users to select a desired display area in partially open and fully open configurations.

[0049] While specific embodiments have been described in detail, it will be appreciated by those skilled in the art that various modifications and alternatives to those details could be developed in light of the overall teachings of the disclosure. Accordingly, the particular arrangements disclosed are meant to be illustrative only and not limiting.

What is claimed is:

1. A handheld electronic device, comprising:

a housing;

a flexible display associated with the housing, the flexible display having a folded arrangement in which the flexible display defines a first portion and a second portion; and

an input portion linked to the housing, wherein the device is configured to sandwich the input portion in-between the first portion of the flexible display and the second portion of the flexible display when the flexible display is in the folded arrangement.

2. The handheld electronic device of claim **1**, wherein the flexible display is configured to transition between the folded arrangement and a substantially planar arrangement.

3. The handheld electronic device of claim **1**, wherein the input portion is movable relative to the housing between a first position and a second position when the flexible display is in the substantially planar arrangement, wherein the input portion lies on the flexible display in the first position, and wherein a top of the input portion is adjacent to a bottom of the housing in the second position.

4. The handheld electronic device of claim **3**, wherein the device is configured such that, when the input portion is in the first position, the input portion at least partially covers the flexible display.

5. The handheld electronic device of claim **3**, wherein the device is configured such that, when the input portion is in the second position, the flexible display is fully viewable to a user of the handheld electronic device.

6. The handheld electronic device of claim **1**, wherein the flexible display is configured to be folded into the folded arrangement, and wherein the flexible display is configured to define a maximum angle of rotation of 180° when the flexible display is folded into the folded arrangement.

7. A handheld electronic device, comprising:

a housing;

a flexible display supported by the housing, the flexible display having a first portion and a second portion connected to one another by a bendable portion, wherein the flexible display is configured to be folded about the bendable portion with the first portion spaced from and substantially parallel to the second portion; and

an input portion disposed in-between the first portion of the flexible display and the second portion of the flexible display.